



1999 Toxics Release Inventory

MICHIGAN

Reported Releases and Waste Management Activities (in pounds)

	Original Industries	New Industries	Total
On-site Releases	43,176,027	54,008,955	97,184,982
Air Emissions	36,907,358	39,252,191	76,159,549
Surface Water Discharges	1,126,839	138,739	1,265,578
Underground Injection Class I Wells	2,571,894	0	2,571,894
Underground Injection Class II-V Wells	48	0	48
On-site Land Releases to RCRA Subtitle C Landfills	49,056	7,008,813	7,057,869
Other On-site Land Releases	2,520,832	7,609,212	10,130,044
Off-site Releases (Transfers Off-site to Disposal)*	29,292,730	15,808,802	45,101,532
Total On- and Off-site Releases	72,468,757	69,817,757	142,286,514
Recycled On-site	433,415,864	20,818,971	454,234,835
Recycled Off-site	125,410,264	170,684	125,580,948
Energy Recovery On-site	62,125,600	0	62,125,600
Energy Recovery Off-site	74,367,494	57,634,988	132,002,482
Treated On-site	96,691,662	8,379,879	105,071,541
Treated Off-site**	35,062,778	18,318,633	53,381,411
Quantity Released On- and Off-site***	73,419,983	69,813,092	143,233,075
Total Production-related Waste Managed	900,493,645	175,136,247	1,075,629,892
Total Non-production-related Waste Managed	24,198	1,310	25,508

Transfers Off-site for Further Waste Management/Disposal

Recycling	124,124,698	136,919	124,261,617
Energy Recovery	73,817,688	59,052,781	132,870,469
Treatment	24,953,824	18,863,299	43,817,123
Publicly Owned Treatment Works (POTWs)	16,234,634	37,073	16,271,707
Metals and Metal Compounds*	135,010	2,592	137,602
Non-metal TRI Chemicals**	16,099,624	34,481	16,134,105
Other Off-site Transfers***	0	0	0
Off-site Transfers to Disposal (not including metals to POTWs)	29,536,211	15,837,624	45,373,835
Total Transfers Off-site for Further Waste Management/Disposal	268,667,055	93,927,696	362,594,751

* Transfers to POTWs of metals and metal compounds are included in off-site releases. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.

** Transfers to POTWs of non-metals are included in treated off-site waste management activity.

*** Excludes non-production-related releases; e.g. releases due to catastrophic events or remedial actions.

**** Transfers reported without a valid waste management code.

For More Information . . .

State Contact:

Robert Jackson
(517) 373-2731

Fax: (517) 241-7966

E-mail: JACKSORC@state.mi.us

EPA Regional Contact:

Thelma Codina
(312) 886-6219

Fax: (312) 353-4788

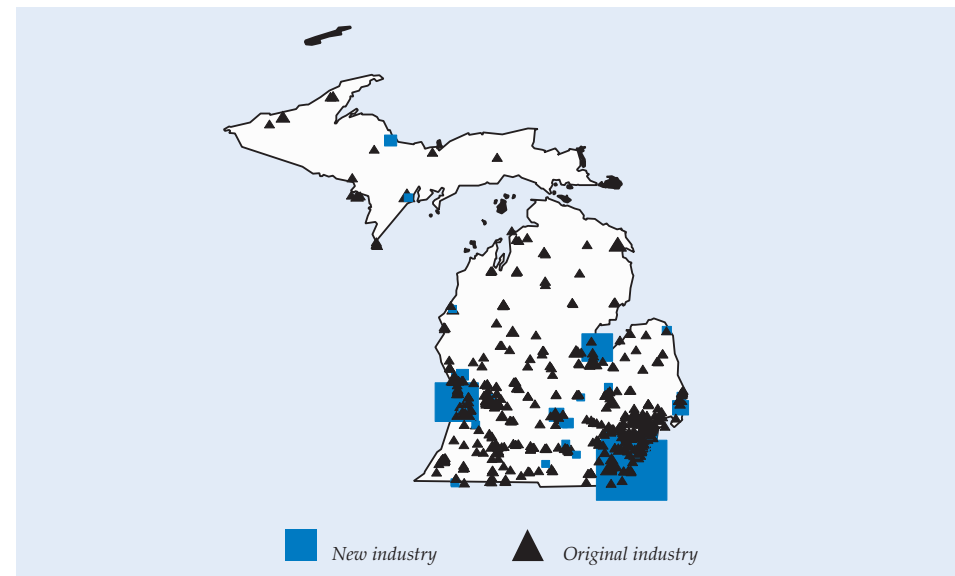
E-mail: codina.thelma@epa.gov

To obtain TRI data use

assistance, call TRI User
Support Service (TRI-US):

(202) 260-1531

Fax: (202) 401-2347



The largest marker in the state map represents the largest facility for on-site releases in the state of Michigan. All markers are proportionally-sized to represent the on-site releases at each facility within this state.

State/TRI Data

Population	9,863,775
Square Miles	56,809
Total Facilities	919
Total Forms	3,586
Form As	415

	Original Industries	New Industries	Total
National Rank for Total On- and Off-site Releases*			
Rank	11	14	15
Pounds	72,468,757	69,817,757	142,286,514
National Rank for Total On-site Releases**			
Rank	19	20	19
Pounds	43,176,027	54,008,955	97,184,982
National Rank for Total Releases within State***			
Rank	7	14	11
Pounds	91,954,624	71,334,037	163,288,661
National Rank for Production-related Waste Managed			
Rank	6	8	8
Pounds	900,493,645	175,136,247	1,075,629,892

* Includes transfers out-of-state for disposal. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.

** Includes amounts released at the facility. Excludes amounts transferred to other sites.

*** Excludes transfers for disposal sent out-of-state or sent to other TRI facilities within the state reporting that amount released on-site.



1999 Toxics Release Inventory

MICHIGAN

On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Original Industries)

CAS Number	Chemical	On-site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
--	Zinc compounds	223,982	9,570	8,650	97,820	21,174,513	21,514,535	1,905,176	20,902,731	333,999
1330-20-7	Xylene (mixed isomers)	7,168,989	41	0	0	53,103	7,222,133	13,582	42,290	11,613
67-56-1	Methanol	3,970,634	184,778	2,326,000	3,576	3,834	6,488,822	3,058	1,734	2,100
108-88-3	Toluene	4,159,009	607	4,534	18,692	38,870	4,221,712	20,519	29,501	9,369
7647-01-0	Hydrochloric acid	2,546,096	0	5	0	0	2,546,101	0	0	0
--	Manganese compounds	57,340	23,271	3,970	522,039	1,782,252	2,388,872	346,839	1,750,100	33,758
7664-41-7	Ammonia	1,951,103	274,585	29,383	14,043	25,942	2,295,056	7,516	25,942	0
7439-96-5	Manganese	47,628	175	0	560,114	1,685,851	2,293,768	1,306,254	1,702,931	33,963
--	Glycol ethers	2,174,766	1,091	0	6,344	84,419	2,266,620	32,235	45,278	40,301
110-54-3	n-Hexane	1,738,987	5	6	0	261	1,739,259	252	261	0

* Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

** The chemical ranking is based on the amounts in this column.

On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Seven New Industries)

CAS Number	Chemical	On-site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
7647-01-0	Hydrochloric acid	30,573,128	0	0	0	0	30,573,128	0	0	0
--	Barium compounds	121,483	54,484	0	8,503,222	3,662,565	12,341,754	612	3,662,402	163
--	Zinc compounds	173,827	17,382	0	984,089	4,143,680	5,318,978	198,099	4,130,704	12,976
--	Lead compounds	2,977	6,515	0	328,858	3,727,549	4,065,899	30,542	3,683,595	43,954
7664-93-9	Sulfuric acid	3,153,667	0	0	0	0	3,153,667	0	0	0
7664-39-3	Hydrogen fluoride	2,397,725	0	0	0	0	2,397,725	251	0	0
7440-66-6	Zinc (fume or dust)	2,346,346	5	0	0	4,780	2,351,131	2,300	4,780	0
--	Copper compounds	75,739	14,133	0	438,157	1,164,452	1,692,481	27,571	1,149,843	14,609
--	Nickel compounds	26,744	1,047	0	780,614	732,166	1,540,571	44,367	628,978	103,188
--	Selenium compounds	18,306	2,733	0	799,171	422,056	1,242,266	106	422,056	0

* Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

** The chemical ranking is based on the amounts in this column.



1999 Toxics Release Inventory

MICHIGAN

On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Original Industries)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Underground Injection				On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
	Air Emissions Pounds	Surface Water Discharges Pounds	Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Holnam Inc. Dundee Plant, Dundee, Monroe	2,613,922	0	0	0	0	0	2,613,922	0	0
Pfizer, Inc. Parke-Davis Div., Holland, Ottawa	105,388	0	2,311,579	0	0	0	2,416,967	9,400	0
GMC Gmtg Pontiac East Assembly, Pontiac, Oakland	1,709,363	0	0	0	0	0	1,709,363	534	960
GMC Gmpt Saginaw Metal Casting Ops., Saginaw, Saginaw	161,094	0	0	0	0	1,344,928	1,506,022	1,514	9,146
Fibermark, Rochester, Oakland	1,460,962	0	0	0	0	0	1,460,962	0	0
Lafarge Corp. (Including Systech Env. Corp.), Alpena, Alpena	1,044,684	26	0	0	0	347,800	1,392,510	0	15
Vemco Inc., Grand Blanc, Genesee	1,166,620	0	0	0	0	0	1,166,620	0	0
Mead Paper Div., Escanaba, Delta	612,805	44,210	0	0	0	506,013	1,163,028	0	0
GMC Mlcg Hamtramck Assembly, Detroit, Wayne	1,064,544	0	0	0	0	0	1,064,544	1,292	39,600
GM Lansing Plants 2,3,&6(Body), Lansing, Ingham	872,760	0	0	0	0	0	872,760	128,586	9,607

*The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.

On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Seven New Industries)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Underground Injection				On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
	Air Emissions Pounds	Surface Water Discharges Pounds	Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Detroit Edison Monroe Power Plant, Monroe, Monroe	11,248,647	14,459	0	0	0	3,540,900	14,804,006	0	0
J. H. Campbell Generating Plant, West Olive, Ottawa	7,332,801	2,963	0	0	0	1,038,580	8,374,344	0	0
Wayne Disposal Inc., Belleville, Wayne	4,871	0	0	0	7,008,813	0	7,013,684	3,586,632	0
De Karn - JC Weadock Generating Plt., Essexville, Bay	4,533,792	45,875	0	0	0	840,730	5,420,397	0	0
Detroit Edison-Trenton Channel Power Plant, Trenton, Wayne	2,623,205	5,027	0	0	0	61,230	2,689,462	713,030	0
Grand Haven Board of Light & Power, Grand Haven, Ottawa	2,511,983	36	0	0	0	0	2,512,019	10,102	0
Detroit Edison - River Rouge Power Plant, River Rouge, Wayne	2,291,306	16,919	0	0	0	15,840	2,324,065	689,040	0
J.R. Whiting Generating Plant, Luna Pier, Monroe	1,778,279	0	0	0	0	243,000	2,021,279	0	0
Detroit Edison-St. Clair Power Plant, East China Township, St Clair	1,243,073	3,600	0	0	0	689,635	1,936,308	0	0
Lansing Board of Water & Light- Eckert Station, Lansing, Ingham	1,607,088	23,478	0	0	0	0	1,630,566	545,778	0

*The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.



1999 Toxics Release Inventory

MICHIGAN

Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Original Industries)

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site*	Total Production- related Waste Managed Pounds	Total Non- Production- related Waste Managed Pounds
Rouge Steel Co., Dearborn, Wayne	0	382,500	0	0	0	0	11,907,800	12,290,300	2
National Steel Corp. Greatlakes Ops., Ecorse, Wayne	7,992,123	1,306	0	0	3,128,000	26,287	10,381,333	21,529,049	1
Holnam Inc. Dundee Plant, Dundee, Monroe	0	0	0	0	0	0	2,613,922	2,613,922	0
Pfizer, Inc. Parke-Davis Div., Holland, Ottawa	2,194,000	817,500	0	17,715,650	2,567,374	1,953,550	2,426,038	27,674,112	30
GMC Gmtg Pontiac East Assembly, Pontiac, Oakland	0	1,365,182	0	368,410	979,169	83,000	1,710,470	4,506,231	0
GMC Gmpt Saginaw Metal Casting Ops., Saginaw, Saginaw	0	56,446	0	0	0	2,491	1,517,700	1,576,637	0
Fibermark, Rochester, Oakland	0	0	0	0	0	47,202	1,460,030	1,507,232	0
Lafarge Corp. (Including Systech Env. Corp.), Alpena, Alpena	0	0	29,290,000	0	30	1,145	1,391,057	30,682,232	0
Mead Paper Div., Escanaba, Delta	0	0	1,980,000	0	8,925,300	0	1,203,100	12,108,400	0
Vemco Inc., Grand Blanc, Genesee	0	702,946	0	0	1,073,417	0	1,166,620	2,942,983	0

*The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.

Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Seven New Industries)

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site*	Total Production- related Waste Managed Pounds	Total Non- Production- related Waste Managed Pounds
Detroit Edison Monroe Power Plant, Monroe, Monroe	0	0	0	0	1,960,000	0	14,799,500	16,759,500	0
Wayne Disposal Inc., Belleville, Wayne	0	0	0	0	230,366	2	10,600,524	10,830,892	6
USL City Environmental Inc., Detroit, Wayne	0	0	0	0	0	0	8,985,045	8,985,045	10
J. H. Campbell Generating Plant, West Olive, Ottawa	0	0	0	0	843,000	0	8,374,000	9,217,000	210
De Karn - JC Weadock Generating Plt., Essexville, Bay	0	0	0	0	534,000	0	5,416,960	5,950,960	0
Detroit Edison-Trenton Channel Power Plant, Trenton, Wayne	0	0	0	0	533,000	0	3,408,000	3,941,000	0
Detroit Edison - River Rouge Power Plant, River Rouge, Wayne	0	0	0	0	334,000	0	3,008,000	3,342,000	0
Grand Haven Board of Light & Power, Grand Haven, Ottawa	0	0	0	0	0	0	2,522,115	2,522,115	0
Lansing Board of Water & Light- Eckert Station, Lansing, Ingham	0	69,500	0	0	0	0	2,176,344	2,245,844	7
J.R. Whiting Generating Plant, Luna Pier, Monroe	0	0	0	0	198,000	0	2,021,000	2,219,000	0

*The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.